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Patentanmeldung Nr. Patent application No. Demande de brevet n°

03076489.8 ~

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R C van Dijk

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Bezeichnung der Erfindung/Title of the invention/Titre de l'invention:
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Lamp with a mica cementing plate

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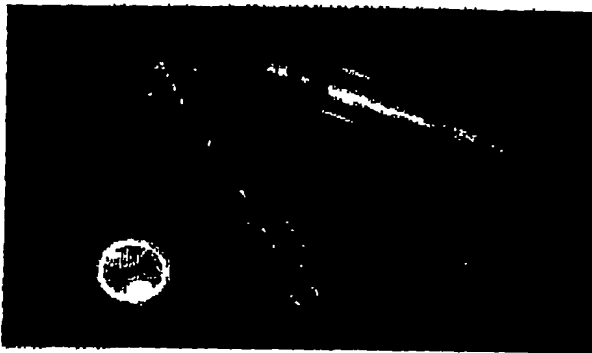
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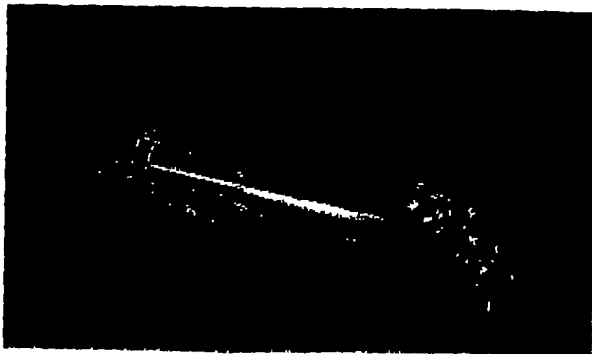
Lamp with a mica cementing plate

a) What was known on the subject, and from what source?

Within the construction of the CDM-Aluline 35W lamp, a metal cementing plate is used. The cementing plate is positioned on the pinch of the quartz CDM-TC 35W capsule. A quartz sleeve is mounted on top of the capsule with the cementing plate. (see picture 1 and 2). This cementing plate prevents the ceramic cement from passing through. (see picture 3).

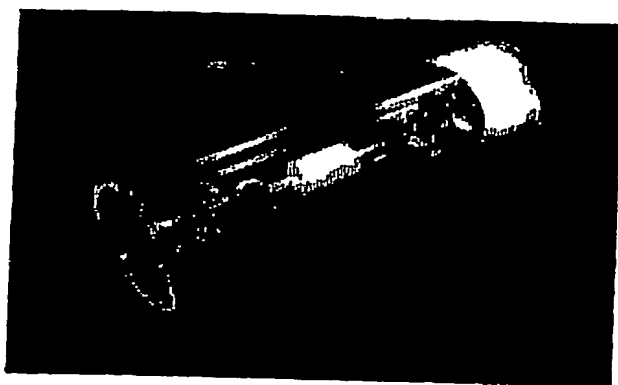


10 Picture 1



Picture 2

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Picture 3

5 b) What are the drawbacks of this?

Cracking of the quartz sleeve was observed during lifetime experiments (picture 4). This cracking is caused by the large difference in thermal expansion between the metal cementing plate and the quartz sleeve.

- 10 During heating up the metal plate is pressing on the quartz sleeve. This causes a build up of too high stresses in the glass wall that finally leads to cracking of the quartz.



15 Picture 4

c) What is the invention?

- 20 Replacing the metal cementing plate by a Mica plate, Mica is a material that is softer than metal (see picture 5). Because of this no too high stresses can be build up in the glass wall of

the quartz sleeve. Experiments have shown that the Mica plate can withstand the high lamp temperatures up to 400 C. Also an advantage is the fact that the cement shows no adhesion on the Mica, which is an advantage in avoiding too high stresses as a consequence of differences in thermal expansion between the cement and the sleeve.

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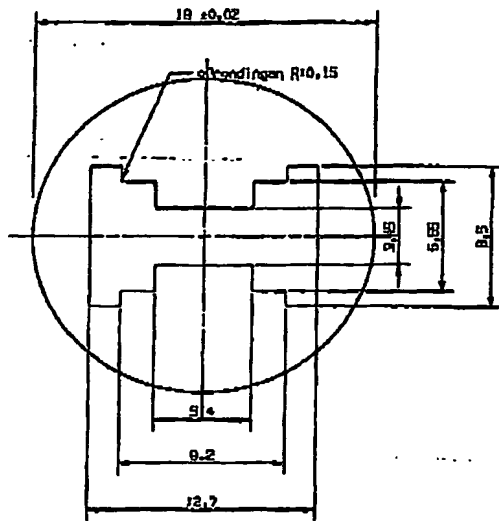


Picture 5

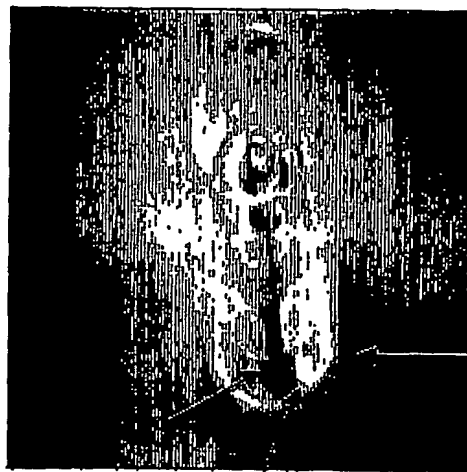
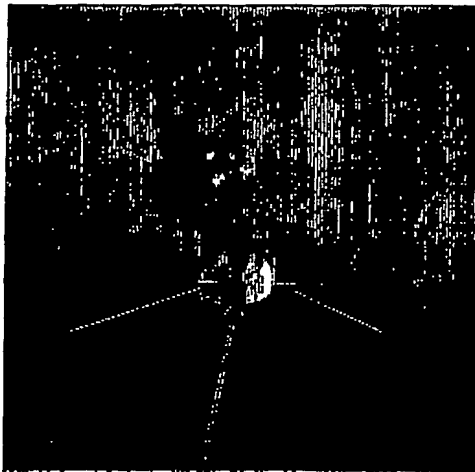
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Mica cementing plates with the desired complex shape are shown in picture 6. An embodiment of an outer bulb connected to a sleeve according to the invention is shown in picture 7.

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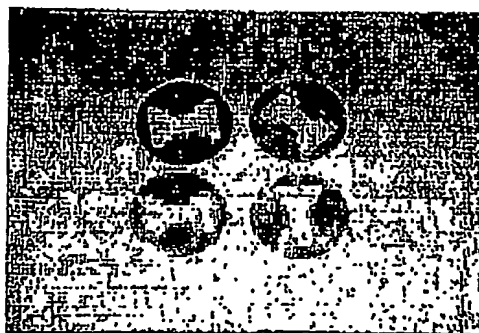
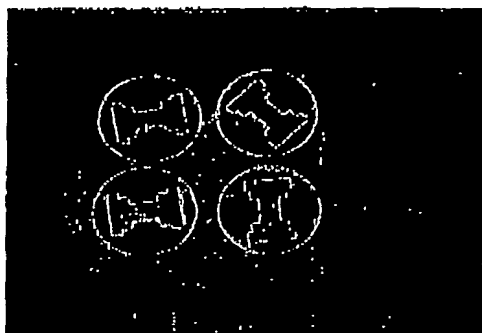


Picture 6



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Picture 7

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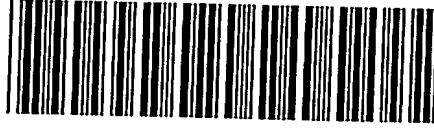
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- 1 A lamp provided with an outer bulb in which a light source is arranged, which
outer bulb has an end provided with a seal through which an electric conductor extends
towards the exterior of the outer bulb, which outer bulb is at least partly surrounded by a
sleeve, which sleeve extends over the region of the seal to an external lamp cap, wherein the
5 sleeve encloses a mica cementing plate forming a separation of the region of the seal
surrounded by the sleeve in a first part which extends to the lamp cap and is filled with
cement and a second part comprising the outer bulb.
2. A lamp according to claim 1 wherein the light source is a high-pressure
10 discharge vessel.
3. A lamp according to claim 1 or 2 wherein the light source is a metal halide
source.

ABSTRACT:

The invention is related to a lamp provided with an outer bulb in which a light source is arranged, which outer bulb has an end provided with a seal through which an electric conductor extends towards the exterior of the outer bulb, which outer bulb is at least partly surrounded by a sleeve, which sleeve extends over the region of the seal to an external lamp cap, wherein the sleeve encloses a mica cementing plate forming a separation of the region of the seal surrounded by the sleeve in a first part which extends to the lamp cap and is filled with cement and a second part comprising the outer bulb.

Fig: Picture 7

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